

Genetic

A Library for Genetic Programming

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Abstract

This document is a guide to the GENETIC package. It explains the purpose for each of the classes, and how to use them.

1 Purpose of this Document

2 Terms

This section of the document defines several terms, used later in the document.

Objective function An *objective function* is the function to be maximized by the genetic algorithm.

Parameter function A *parameter function* (or *parameter evaluation function*) is a function used to turn an encoded bit pattern (in a gene) into a parameter value.

3 Overview of the Classes

3.1 Individual

Each instance of the class *Individual* represents a single possible solution to the problem at hand. An *Individual* has a gene, and is associated with a specific objective function and parameter evaluation function.

3.2 Population

Each instance of the class *Population* represents a collection of *Individuals*, which are mutated, cross-bred, and culled to generate superior solutions to the given problem (that is, to maximize the objective function).